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A Panel Data Analysis of the Effects of Constitutional Environmental Rights Provisions on Access to Improved Sanitation Facilities and Water Sources

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Abstract

Using novel panel data on constitutional environmental rights (CER) for 190 countries from 1990-2012, this paper questions if the presence/language of CER provisions provides increased access to improved sanitation facilities and drinking water sources. While implementing statutory laws/regulations derived from CER provisions is a dynamic process, the presence/language of CER provisions is temporally fixed. To capture these dynamics, the presence of a CER and a measure of its legal strength are interacted with its age as explanatory variables within a fixed effects framework yielding evidence of: (1) no association between the CER measures and access to improved sanitation facilities; (2) a positive statistically significant association between ageing CER provisions and access to improved water sources; and (3) a positive but weakly statistically significant association between the legal strength of ageing CER provisions and access to improved water sources, which is improved upon for countries with British vs. French legal origins.

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1 Introduction

Given your circumstances, think about how easy or difficult it is to find a bathroom or some clean drinking water. In the United States (US), for example, and many other developed countries, it is comparatively simple and perhaps something people take for granted - one doesn't have to go too far or spend too much time to find either. Yet, the question remains: how or why is it this simple in some places when the United Nations (UN) notes that as of 2012, roughly 2.5 billion people in developing countries lacked access to improved sanitation facilities and close to 750 million people remained without access to an improved source of drinking water? And these numbers are arguably an improvement given that the Millennium Development Goal of halving the proportion of people without access to improved sources of water was met five years ahead of schedule, and that from 1990 to 2012, approximately 2.3 billion people gained access to improved drinking water sources.[2]

In an effort to address some of these issues, the UN General Assembly explicitly recognized the human right to water *and* sanitation in July 2010, outlining specific accessibility and quality dimensions of the right.[3] The human right to water is an example of an environmental human right to a clean environment (Hiskes, 2009), and the same can be said of sanitation, since it is inextricably linked to water. According to the UN, said right takes into consideration, for example, the required amount of water per person per day for personal and

[2] See the 2012 UN Millennium Development Goals Report for more information.

[3] See Meier et. al (2013) for a thorough overview of the present and expected effects of this resolution on sanitation and water policy.

domestic uses (13-26 gallons distributed across drinking, personal sanitation, washing of clothes, food preparation, and personal and household hygiene); the cost of water (no more than 3% of household income); physical accessibility (within 0.62 miles of home and with a collection time of no more than 30 minutes); and, of course, the quality of water (which has to be free from micro-organisms, chemical substances, radiological hazards, and other threats to a person's health).

At the same time, and through 2010, many countries have adopted this human rights framework and included protections for a clean environment as explicit provisions within their respective constitutions. In fact, as of 2010, the constitutions of 125 different countries included constitutional environmental rights (CER) provisions, 10 of which explicitly delineated the human right to water, and all of which are worded differently and are therefore likely to have different legal interpretations (Jeffords, 2013).[4] Even if sanitation and water are not directly mentioned, however, the specific human right to sanitation and water can easily be derived from a more general provision about a clean or healthy environment. On pure physiological grounds, it is easy to argue that life cannot proceed without the consumption of clean, safe water, and so having a healthy environment necessitates sanitation and water requirements.

Many developed countries including Austria, France, Ireland, and the US consistently report near 100% on the access measures. At the same time, none of these countries have environmental rights (ER) provisions written into their constitutions. On the other hand, there is

[4] See also May and Daly (2014).

a mix of developed and developing countries whose constitutions contain ER provisions yet report considerably lower rates of access. Given the differences in reported access to improved sanitation facilities and drinking water sources across countries and time, this paper asks the following question: *does the presence and language of constitutional environmental rights (CER) provisions lead to increased access to improved sanitation facilities and drinking water sources*?

Another important question perhaps follows: why should a general CER provision affect access to sanitation and water? Jeffords and Minkler (2014) argue against using measures of specific outcomes in favor of general environmental indicators. Minkler and Prakash (2015) take a similar stand with respect to the effects of economic and social rights on measures of poverty. So, why? As Boyd (2012) notes, the presence of CER provisions can lead to increased policy, legislation, and/or regulation, and provide an avenue through which rights-holders can file lawsuits. The outcome of the 2013 Pennsylvania Supreme Court Case *Robinson Township vs. Commonwealth* is an excellent example of how a CER provision can be used in this fashion. Section 27 of Pennsylvania's Constitution notes that,

> The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.

In light of this provision, the case covered the constitutionality of Act 13 – which set state-wide zoning standards for oil and gas operations – and found in favor of Robinson Township. Among

other potential legal ramifications, an analysis by McGuireWoods Consulting notes the following likely outcomes as a result of the ruling: "(1) statewide oil and gas land use regulation is, for all practical purposes, now impossible; (2) municipal regulation of oil and gas operations may be stricter; (3) other oil and gas regulations may be open to challenge."[5] So although CER provisions are written with some degree of generality *and* specificity, they can be used to drive specific outcomes. To the extent that this is possible at the country level, the present analysis provides a framework to estimate the effects of CER provisions on specific environmental outcomes. What is difficult to quantitatively measure is the ultimate path to the environmental outcome. In a qualitative context, May and Daly (2014) provide a comparative survey of CER including, but not limited to: the history and evolution of CER provisions; the jurisprudence of CER provisions; the adjudication and enforcement of CER provisions; remedies for CER violations; and emerging issues in procedural and subnational ER. From an economics perspective, the political economy literature notes that constitutions can act as binding constraints on policymakers (Buchanan and Brennan, 1981; North and Weingast, 1989). In short, those politicians who dedicate resources campaigning to increasing access to sanitation and water during an election could eventually be constrained by constitutional rules. Statutory policy could also establish said constraints, but these types of constraints are easily altered or eliminated by transient political majorities, whereas constitutions are quite difficult to change.

[5] See the following legal alert for more information: http://www.mcguirewoods.com/Client-Resources/Alerts/2013/12/Robinson-Township-v-Commonwealth.aspx

This is an important idea because it takes time to adjudicate constitutional disputes and implement statutory policies. At the same time, however, the language of a given CER provision is fixed across time. There is thus a static provision having some amount of dynamic effect on environmental outcomes, and this is a serious problem from an econometric standpoint because there is limited comparatively useful data that measures the dynamic elements of this legal process across countries and time. In an effort to address this issue, a novel proxy is created to capture said dynamics: the presence and legal strength of a CER provision are separately interacted with the age of a given country's constitution or CER amendment. The latter age difference accounts for whether or not the CER provision was amended into the constitution or was part of the original document. The age of the CER provision also provides an element of time through which CER provisions can be used to impact specific environmental outcomes, and the environment in general. If, for example, various policies and regulations are derived from CER provisions, there could be a general improvement in environmental outcomes stemming from the cumulative effect of improvements in specific outcomes. It could thus be the case that the more time a country has had a CER provision in place, the more likely it is to have specific processes in place (e.g., court and democratic processes) to implement changes in environmental outcomes, be it reductions in carbon dioxide and/or methane emissions, or improvements in access to sanitation and/or water. What is difficult to capture, however, is how heterogeneous country characteristics may lead to stronger (weaker) effects of CER provisions across time and put each on a different path to some environmental outcome. To this end, ageing CER provisions are a reasonable proxy for the time dimension of CER efficacy (or otherwise).

Accounting for simultaneous causality within a panel data estimation framework, the dynamic CER measures are used as explanatory variables in an effort to address the main research question of this paper. In particular, the analysis uses data from up to 190 countries from 1990-2012, where the primary dependent variables include access to improved sanitation facilities and water sources. The estimation framework controls for purchasing power parity adjusted gross domestic product per capita (GDP), population density, percent of the population that is female, existing institutional quality within a country, measures of a country's infrastructure, and, to a limited degree, legal origins. The results demonstrate the following: (1) at traditional significance levels, there is strong evidence of a lack of association between the CER measures and access to improved sanitation facilities; (2) there is evidence of a statistically significant and positive association between ageing CER provisions and access to improved water sources; and (3) there is very limited evidence of a statistically significant and positive association between the legal strength of ageing CER provisions and access to improved water sources, but this is improved upon considerably for those countries with British legal origins compared to French.

It is worth noting that regressing the dynamic CER variables on the access measures will only yield conditional correlation as a result of controlling for observable country and time specific characteristics. Finding a causal link is thus a difficult task because it is likely the case that a country which tends to report higher access statistics is perhaps more likely to constitutionalize ER. Causality is further difficult to pin down without implementing an instrumental variables framework, which is left for future research because: (1) this is seemingly the first paper to attempt to estimate the effects of CER provisions on specific

environmental outcomes in a panel data framework; and (2) it is difficult to find valid and exogenous instruments for the CER provision variables given that they are constructed by interacting their presence and language with their respective age where most macro-level variables tend to have a time trend.

The remainder of the paper is organized as follows. Section 2 provides a background literature review on constitutions and policymaker decisions. Section 3 describes the empirical framework and Section 4 describes the data. The results are presented and discussed in Section 5, and Section 6 concludes.

2 Background

Although there is a rich literature describing the varied relationships between institutions and economic outcomes, there is very little describing the effects of constitutional provisions on economic and environmental outcomes.[6] Some notable exceptions include Persson and Tabellini (2000), Matsuura (2013), Kaletski, Minkler, Prakash, and Randolph (2014), Edwards and Marin (2014), Minkler and Prakash (2015), Boyd (2012), and Jeffords and Minkler (2014). Although topically different, the first five papers are briefly discussed below followed by a lengthier discussion of the last two topically similar projects.

[6] Examples in the institutions literature include Sokoloff and Engerman (2000), Acemoglu, Johnson, and Robinson (2001), and La Porta, Lopez-de-Silanes, and Shleifer (2008). See Spolaore and Wacziarg (2013) for a recent review.

Persson and Tabellini employ a cross-section analysis to identify the effects of constitutionally mandated political institutions (i.e., presidential vs. parliamentary governing systems) on the size of government. They find that presidential and majoritarian systems have smaller governments, majoritarian systems have smaller welfare state spending and budget deficits, and that parliamentarian government spending increases during economic recessions and is not reversed during expansions. Matsuura investigates the effects of constitutional rights on health outcomes demonstrating that including a constitutional right to health will likely be an effective mechanism to improve health outcomes in countries that have a high degree of democratic governance. In a cross-section framework, Kaletski et. al. explore the effects of constitutional economic and social rights (CESR) provisions on government fulfillment of said rights and find support for constitutional provisions as an avenue for improving economic and social rights outcomes. Using data about the relationship between the right to education and educational outcomes, Edwards and Marin find no evidence of a relationship between including a constitutional right to education and higher test scores. Minkler and Prakash use cross-sectional data within an instrumental variables framework and find a strong negative and causal link between CESR (framed as enforceable law) and poverty.

Boyd (2012) analyzed the constitutions of 92 countries which have an ER to live in a healthy environment to determine if these rights resulted in statutory legislation, environmental regulation, and/or lawsuits filed. Some of his summary findings include: (1) 78 out of 92 countries incorporated the CER into major legislation; (2) CER have had a growing effect on the filing and adjudication of environmental lawsuits; and (3) procedural ER – the rights to information, participation, and justice—are important complements to the right to live

in a healthy environment. Using this data, Boyd then implements a simple ANOVA analysis covering a cross-section of countries using a general indicator of environmental quality as the primary dependent variable. By examining two groups of countries as of 2008 – those without a CER provision and those with – he finds that countries with a CER provision have a smaller ecological footprint. The ecological footprint variable attempts to measure how much of the regenerative capacity of a country is used by human activities, and includes "the area of land and water needed to produce crops, livestock, fish, wood products, and energy, as well as the area needed to absorb the carbon dioxide produced by burning fossil fuels (p. 257)."[7] The present analysis is closely related to Boyd's primary summary findings (1) and (2) discussed above. In particular, given that Boyd finds that countries are incorporating CER provisions into major legislation and that CER provisions are having a growing effect on the filing and adjudication of environmental lawsuits – a finding strongly echoed by May and Daly (2014) – it is important consider how the dynamic effects of CER provisions impact specific outcomes while controlling for other important covariates.

Jeffords and Minkler (2014) find a positive relationship between the presence and legal strength of CER provisions and general environmental outcomes. Considering constitution norms, opposition costs, and generation effects within an instrumental variables framework, they control for: (1) GDP; (2) whether the country is party to the International Covenant on Economic, Social, and Cultural Rights; (3) rule of law; (4) population density; and (5) exogenous

[7] See Ewing, et al (2008) for more on the ecological footprint variable, and Boyd (2012, pp. 257-258) for a critique of the ecological footprint variable.

geographic factors. Their study lends strength to a causal link between CER provisions and environmental outcomes, but considers only a cross section of around 100 countries as of 2012 and thus fails to account for the dynamic effects of CER provisions.

3 Empirical Framework: Panel Data Models

Following Cameron and Trivedi (2005), write a general linear model as,

$$y_{it} = \alpha_{it} + \boldsymbol{x}_{it}'\beta_{it} + u_{it}, \text{ for } i = 1, \dots, N \text{ and } t = 1, \dots, T, \quad (1)$$

where the slope and intercept coefficients can vary over country i and year t. In order to estimate (1), additional assumptions have to be placed on α_{it}, β_{it}, and u_{it}. The **pooled model** (PM) is estimated by assuming that the intercept and slope coefficients do not vary across i and year t, and exploits the variation across cross-sectional and time units to provide parameter estimates. The PM essentially treats panel like a large cross-section. The **fixed effects model** (FEM) is estimated by assuming that the slope coefficients do not vary across i or t, but allows for i and t specific intercepts. The intercepts are considered random variables which capture unobserved heterogeneity across i and t, and are allowed to be correlated with the regressors, $\boldsymbol{x}_{it}$. If there are other observable country and time specific variables that do not vary across time, then the estimation process will be unidentified. The FEM also assumes that the disturbance term, u_{it}, is independently and identically distributed (iid) over i and t. The **random effects model** (REM) is similar to the FEM but instead assumes that the intercepts are uncorrelated with $\boldsymbol{x}_{it}$, and that both the intercepts and the disturbance term are iid. The REM

can thus provide estimates for multiple country and time invariant regressors. In terms of statistical fit, the Hausman test of statistical difference between the FEM and REM estimators can help decide which model is statistically appropriate in a given circumstance. It is important to note, however, that the REM is often intuitively appropriate if it is believed that the intercept term is a random drawing of a much larger population with a constant mean value and if a case can be made that the random intercept term of each cross-sectional unit is uncorrelated with the regressors. A final panel model variation is the **between model** (BM) which, in short panels, makes use of only the cross-sectional variation by averaging y and x across years. There is also the **first difference model** (FDM), but this is not appropriate here as it differences out all of the fixed effects, including the time-invariant presence and language of a CER provision.

Based on the above discussion, the estimation framework of choice for this data is a country and time FEM. There is an obvious need to control for unobserved heterogeneity across countries and time, and the REM makes too strong of an assumption about the unobserved effects being uncorrelated with the observable characteristics in $\boldsymbol{x}$. This is particularly true as it pertains to the various layers of subnational policies aimed at increasing access to sanitation and water. Given the nature of the FEM model, the country specific fixed effects could not also be separately estimated when the CER variables (not interacted with age) are included because they are observed fixed effects. In other words, once a country includes a CER provision in its constitution, its language rarely changes, hence a fixed observable characteristic. It is thus immediately clear that leaving the CER measures out of the analysis yields some correlation between the unobserved fixed effects and some variables in $\boldsymbol{x}$. For example, the effects of CER provisions could be correlated with the level of income per capita

as well as the degree GE (GE). Although the REM could provide separate estimates of all of the fixed effects, the pool of data is the population of countries in the world, in particular those with and without CER provisions, so there is no reason to believe that the country and year intercepts are random draws from some larger pool nor that they are uncorrelated with the observed controls in $\boldsymbol{x}$.

Having said that, obviously the FEM cannot estimate both sets of parameters on the unobserved country fixed effects and the observed CER fixed effects, hence the need for a dynamic measure with variation across i and t. To account for these dynamics within the FEM, the CER provisions are interacted with their respective age, and then included in the estimation process. It is important to note that it could simply be the age of the CER provision driving the empirical results, in which case it is important to consider different empirical specifications.

4 Data

The primary data consists of observations for roughly 190 countries across 23 years. Out of these countries, 122 include CER provisions while 68 do not. Owing to missing data either for the dependent or independent variables, the observation count across the model specifications averages around 2100. The following sections outline the variables used in the empirical framework, with summary descriptive statistics in Table 2.

4.1 Dependent Variables

The primary dependent variables are from The World Bank Development Indicators World DataBank (WDI) and cover the years 1990-2012. According to the metadata of the WDI,

access to improved sanitation facilities "refers to the percentage of the population using improved sanitation facilities […] including flush/pour flush (to piped sewer system[s], septic tank[s], pit latrine[s]), ventilated improved pit latrine[s], pit latrine[s] with slab, and composting toilet[s]." In addition to the percent of the total population, these data are reported as percent of the rural and urban population. The WDI database notes that these coverage rates are based on information provided by service users about the facilities their households use, but there is no information provided about the functioning status of said facilities.

The WDI notes that access to an improved water source is measured as the percent of the population with access to an improved drinking water source which "includes piped water on premises (piped household water connection located inside the user's dwelling, plot, or yard), and other improved drinking water sources (public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs, and rainwater collection)." These data are also reported for the rural and urban populations with access. The WDI database warns that access does not ensure a safe or adequate amount of water, but that such improved technologies are more likely than their unimproved predecessors to provide safe drinking water and limit/prevent contact with human/animal excreta.

The estimation process described below provides estimates for the total, urban, and rural population variations of the access variables.

4.2 Primary Independent Variables

The primary independent variables of interest are built upon (1) the presence of a CER (denoted by a "1" and "0" otherwise), and (2) a simple measure of the legal strength of a given

CER based on its language. These data come from Jeffords (2013) who examined the constitutions of 190 countries as of 2010 for instances of CER provisions and found that 125 constitutions contain a uniquely written provision.[8] Each provision was then examined for the presence of seven keyword categories endemic to the literature that defines and outlines ER (Jeffords, 2013), each of which is highlighted in Table 1. At the conclusion of the keyword analysis, each constitution was given a simple additive score across the seven categories. For example, a score of three indicates the presence of three out of the seven categories, and it is assumed that the higher the score, the stronger is the CER provision in a legal sense.

While the presence and legal strength of constitutional provisions is relatively static across time, the nature of environmental protection (or lack thereof) is dynamic. The way in which CER provisions are thus interpreted and enforced varies across time while the basic existence and language of a given CER provision typically remains fixed. Specifically, it may be that there is increased access to improved sanitation facilities or water sources as a result of the dynamic legal applications of CER provisions. In order to consider the effects of CER provisions across time and within a given country, the presence and legal strength of CER provisions are separately interacted with the age of a given country's constitution or CER

[8] Of these 125 countries, approximately 20 constitutions contained "negating statements." These are statements that precede or follow a CER provision, as well as additional constitutional provisions, and mitigate or negate the legal strength of the provisions. These statements typically note that the following or preceding language is not to be construed as enforceable law but rather as guiding principles for constructing policy. These negating statements have not yet empirically been accounted for, but they often apply to additional provisions beyond the environmental ones.

amendment ("provision age"). The latter age distinction is important because, on occasion, CER provisions were amended into constitutions at a later date.

4.3 Control Variables

Provision age is included as a separate control variable because there tends to be a time trend inherent in most macro level data, which would indicate that any effect of the CER provision measures on the access variables is stemming from the interaction with its age. If a country does not have a CER provision, the provision age variable accounts solely for the age of the constitution/country as a proxy for the amount of time the country (in its present form) has had to take steps to increase (or not) access to sanitation and water. This is an important control because there are unobserved country-specific characteristics that vary across time which could lead to increased (decreased) access to sanitation and water.

The natural log of PPP GDP in constant 2005 international dollars is used to control for the effects of income on the access variables. In some specifications, a squared term is also included to account for potential nonlinearities with respect to increasing access to sanitation facilities and water sources as per capita income grows. In general, it is expected that the net effect of both terms is positive.

Two measures of population are also included as control variables: population density and percent of the population that is female. Population density is calculated using data from the WDI database and is measured in persons per square kilometer. The relationship between population density and the access variables is perhaps not as simple as expected. A larger population density, for example, could indicate that there are more people reporting access to

improved sanitation facilities and water sources. Conversely, a larger population density could lead to increased stress on sanitation facilities and water sources, thereby leading to decreased access, akin to the tragedy of the commons. The percent of the population that is female is included to account for the idea that the burden of water collection often falls more heavily on females, especially in low income countries (Sorenson et. al., 2011).

The analysis also controls for the state of a country's infrastructure as it relates to access to sanitation facilities and water sources. For example, a relatively poor infrastructure might negatively impact access to sanitation and water because there could be limited physical and organizational structures specifically directed at increasing access to sanitation and water. Because data on specific public or private plumbing infrastructure is not easily obtained, two proxies for the scope of a country's infrastructure from the WDI database were included in the empirical analysis: (1) the number of telephone lines per 100 people, and (2) internet users per 100 people. According to the WDI metadata, telephone lines "are fixed telephone lines that connect a subscriber's terminal equipment to the public switched telephone network and that have a port on the telephone exchange. Integrated services digital network channels and fixed wireless subscribers are included." Furthermore, "a fixed telephone line is an active line connecting the subscriber's equipment to the public switched telephone network…" This is a reasonable proxy for the nature of a country's infrastructure because the lines are deemed active and are connected to the public network. In other words, the count only includes active and connected lines. As for internet users, the WDI metadata note that users "are individuals who used the Internet (from any location) in the last 12 months. Internet can be used via a computer, mobile phone, personal digital assistant, games machine, digital TV, etc." This is also

a reasonable proxy because the Internet provides individuals with information and the ability to communicate at various levels about issues associated with their specific sanitation facilities and water sources. Internet use likely also provides a stronger indication about the state of a country's infrastructure because it is a modern advanced technology relative to telephone landlines. Nonetheless, these two measures of infrastructure are positively correlated at the 1% significance level with a correlation coefficient of 0.58. As a result, including either one of these measures (or both) as the infrastructure control(s) yields nearly identical empirical results. That said, the results discussed below focus primarily on the specifications which include internet users per 100 people where it is expected to be nonnegatively related to the measures of access.

Measures of regulatory quality, government effectiveness, and existing rule of law were included to control for the quality of existing legal institutions, and each is expected to be nonnegatively related to the access variables. Although these data are found within the WDI database, the original source is Kaufmann, et. al. (2010).[9] The data are only reported for the following years, 1996, 1998, 2000, 2002-2013, which, when included, shortens the panel to these specific years excluding 2013. To avoid losing the interim years, each series is interpolated by taking the average of the values for the two years surrounding the year where

[9] This is calculated with data from 23 distinct sources such as the Cingranelli-Richards Human Rights Database and Political Terror Scale, World Justice Project Rule of Law Index, and The World bank Country Policy and Institutional Assessments. See Kaufmann, et al (2010) for a full description of methodology behind the Worldwide Governance Indicators project.

data is missing. According to the variable descriptions, regulatory quality reflects "perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development;" GE reflects "perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies;" and rule of law "reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence." Each variable is reported on a scale of ranging from -2.5 (weak government performance) to +2.5 (strong government performance), but is converted to the unit interval with scores closer to 1 signifying strong government performance. It is worth noting that these three variables are highly positively correlated at the 1% significance level: regulatory quality and GE, 0.93; regulatory quality and rule of law, 0.88; and GE and rule of law, 0.93. As a result of this high degree of multicollinearity, the empirical results discussed below do not materially change when any one of the three is included in the analysis. Based on the above definitions, GE is selected as the primary control for institutional quality.

Data for a country's legal origins from La Porta et. al. (1999) are used to account for the historical institutional legal structure of a given country. The variables indicate whether the country has British, French, Socialist, German, or Scandinavian legal origins, but the focus is on the first two because they are associated with 75% of the countries in the data. As these are fixed effects too, the main specifications are implemented *by* legal origin rather than attempting to include a legal origins as a separate control variable. The nature of a country's

present legal system and regulatory regime can depend heavily on the primary legal influences upon said country. Different legal structures can be more (less) amenable to the modern economic and social rights approach, which includes ER. The effects of CER provisions on access to sanitation and water likely vary by legal origin where, according to Minkler and Prakash (2015), the French civil law tradition increases the probability of including constitutional economic and social human rights provisions, while the British common law tradition does the opposite. Inclusion, however, does not imply use or application.

5 Results

The results include four primary specifications – varying by the included control variables – across the access variables by total, urban, and rural population. In each reported specification, both categories of right-hand-side variables – the primary independent variables and control variables – are lagged by one year to control for simultaneous causality.[10]

Each specification includes country and year fixed effects, and the control variables discussed above with the exception of specification (3) which excludes the measure of GE. The differences in the remaining specifications are as follows: specification (1) includes a CER measure but does not include provision age as a separate control; specification (2) does not include a CER measure but does include provision age as a separate control; and, specification

[10] The results are substantively the same if the right-hand-side variables are not lagged. These results are available from the author upon request.

(4), which is the "full" model includes both the CER measure and the provision age control, as well as the measure of GE.

The measure of GE was dropped to increase the sample size, but is likely important to keep regardless of the data limitation. In general, among other aspects of the measure of GE, the "quality of policy formulation and implementation, and the credibility of the government's commitment to such policies" proxies for the existing institutional structure and quality of the government. Leaving this out fails to account for the non-constitutional avenues through which a given government attempts (or fails to attempt) to improve access to sanitation and water.

As noted above, given the macro-level of the data, an argument can be made that it is merely the age of the provision driving any statistically significant result between the CER measures and the access variables. If this were the case, comparing specifications (1) and (2) to (4) would show that the effect of the CER is mitigated when provision age is also included.

5.1 Access to Improved Sanitation Facilities

The primary access to sanitation results are displayed in Table 3, where there is a clear lack of evidence demonstrating a statistically significant relationship between the CER measures and access to sanitation. In fact, provision age is not statistically significant in any specification. The lack of a statistical relationship between the CER measures and access to sanitation doesn't imply the lack of a relationship in practice. Rather there could simply be a greater lag in implementation given that the UN only recently recognized the human right water *and* sanitation. Furthermore, the data compiled by Jeffords (2013) only lists Ecuador and Uruguay as explicitly delineating, separate from water, the human right to sanitation.

The net effect of the GDP measures is positive and largely statistically significant, while population density and the female percent of the population are not statistically significant within one model. The results for GE are mixed, as it is sometimes inversely related to access to sanitation at traditional significance levels, while in other cases showing a statistically insignificant inverse relationship. While perhaps intuitively unappealing, excluding GE leads to a better statistical fit based on the adjusted r-squared in each specification (3). GE, however, does not necessarily have specific or direct implications for the access measures.

The measure of internet users, however, illustrates a strong positive relationship to access to sanitation across the total population, as well as the rural and urban populations. This is an interesting result because it suggests that a more developed infrastructure leads to increased access to improved sanitation facilities. Thus to increase access to sanitation, investment in infrastructure may be an (obvious) option.

5.2 Access to Improved Water Sources

The primary access to water results are displayed in Table 4, where there is evidence of a strong positive association between ageing CER provisions and access to water, and relatively weak evidence of a positive association between the CER index measure and access to water. Although provision age is statistically significant, it does not appear to be the only driving force behind the statistically significant relationship between the ageing CER provision and access to water.

The net effect of the GDP measures is positive and largely statistically significant. Population density and the female percent of population are positively related to access to

water at various significance levels. The latter is particularly interesting because the relationship is not statistically significant in urban areas, but is strongly significant in rural areas (and in total). In general, this result lends further evidence to the existing research indicating that the burden of water collection often falls more heavily on females, especially in low income countries (Sorenson et. al., 2011).

GE is statistically unrelated to access to water, as is the measure of internet users. As noted above, excluding GE leads to an improvement in the statistical fit of the model as demonstrated in the adjusted r-squared of each specification (3). It is interesting that the measure of infrastructure is significantly related to access to sanitation but not access to water. Perhaps this is a result of some of the obvious differences between the two dependent variables. For example, improved sanitation facilities might require increased public planning and are therefore a stronger signal of a robust infrastructure.

5.3 By British and French Legal Origins

The results by British and French legal origins are displayed in Tables 5-8. For those countries with British and French legal origins, the same primary results hold for the relationship between the CER measures and access to sanitation. Furthermore, for countries with French legal origins there is very limited evidence of a relationship between the CER measures and access to water.

For those countries with British legal origins, however, the results demonstrate evidence of a strong relationship between the CER measures and access to water, in particular for the total and rural populations. This is interesting because one of the primary findings for the full sample was that the CER index measure showed no statistically significant relationship to

access to water. A careful examination of the subset of data reveals that, of those countries with CER provisions, 23 countries have British legal origins vs. 54 with French. These sets of countries had comparable average values for access to improved water sources in total, and across the urban and rural populations. An important difference, however, is that because there are more than double the number of countries with French legal origins, there are more instances of reporting 100% access to water sources across the groupings. There was much less variation by legal origins for those countries without CER provisions. These results could also be driven by the fact that there is seemingly more "upward" reporting room for those countries with CER provisions and British legal origins.

6 Conclusion

To summarize, the three primary findings are as follows: (1) there is evidence of a lack of association between the CER measures and access to improved sanitation facilities; (2) there is strong evidence of a statistically significant and positive association between ageing CER provisions and access to improved water sources; and (3) there is very limited evidence of a statistically significant and positive association between the legal strength of ageing CER provisions and access to improved water sources, but this is improved upon vastly for those countries with British legal origins compared to French. The findings thus suggest that CER provisions lead to increased access to improved water sources. CER provisions are thus important because they impact the incentives confronting policymakers who promote specific statutory laws and regulations, where said laws and regulations are sensitive to the particular

circumstances of a given country. To this end, our results generally support the recent research of Boyd (2012) and Jeffords and Minkler (2014). Consider now some general caveats.

To reiterate, the lack of a statistical relationship between the CER measures and access to sanitation doesn't imply the lack of a relationship in practice. As noted above, there could be a lag in implementation given the recent UN recognition. The historical record lends much more conversation to solely the human right to water separate from, or perhaps indirectly related to, sanitation. Although General Comment 15 ("the right to water") of the UN Committee on Economic, Social, and Cultural Rights discusses the importance of sanitation, it is framed within the context of the human right to water. Furthermore, the data compiled by Jeffords (2013) only lists Ecuador and Uruguay as explicitly delineating, separate from water, the human right to sanitation. As an important aside, it appears that a robust infrastructure contributes positively to access to sanitation and thus could be a more useful route to increase access to sanitation.

Second, it is important to note that the primary aim of the paper was to test whether or not the presence of CER provisions, and the subsequent number of language categories, have any effect on the access to sanitation and water measures. Only through a detailed analysis of constitutional and statutory cases is it possible to determine the extent of justiciability and implementation of specific CER provisions. Certain categories of language are perhaps more important than others in terms of the efficacy of a given provision, but there is no simple way to account for this issue. Furthermore, by agnostically including all of the language categories in the original index, there is perhaps too much "wiggle room" with respect to the interpretation and enforcement of a given provision. That there appears to be relatively little impact on the

access measures stemming from the CER index measure does not necessarily mean that a CER provision has no appreciable effect on access over time. In fact, the way the language was coded may not be a good proxy for the legal strength of any one CER provision. It could also be as simple as pointing out that general constitutional provisions are not aimed at correcting for specific (environmental) outcomes, but are meant to provide a framework through which specific outcomes are eventually impacted.

Third, the analysis only provides evidence of conditional correlations between the CER and access measures. Not only this, but access is not use, and it is the ability to have access *and* consume the water that is of greater importance for the rights outcomes. Estimation issues exist, including endogeneity and omitted variables bias. The former relating to the unobserved cultural inclinations within a country to direct resources to increase access to sanitation and water and also to constitutionalize ER, and the latter including measures of natural resource availability (e.g., the stock and flow of water resources across time). To the extent that the FEM accounts for unobserved country/time specific characteristics, however, the primary results of the paper provide reasonable evidence of a link between ageing CER provisions and increased access to water.

Finally, the results do not support outright implementation of CER provisions as a strategy to increase a country's access to improved water resources. Although the results suggest a positive association, at least for ageing CER provisions and access to water, the analysis does not measure the opportunity costs of CER implementation. For example, the political opposition to implementing a federal CER in the US would be comparatively large despite the handful of state constitutions which include CER provisions.

Appendix of Tables

Table 1 – Description of the Seven Keyword Categories

Category	Brief Description	General Keywords (Non-Exhaustive List)
1	Strong language associated with state/government responsibility	Duty, obligation, protection, shall ensure, etc.
2	Weak language associated with state/government responsibility	Take measures, fundamental objective, etc.
3	Right of citizen's to be informed about the status of the environment	Informed, information, etc.
4	Citizen's right to a clean or healthy environment	Clean, pure, healthy, right, etc.
5	Concern for future generations and/or sustainable development	Future, generations, sustainable, etc.
6	Citizen's and "everyone's" responsibility to protect the environment	Citizen, duty, everyone, etc.
7	Explicit human right to water	Water, right, clean, pure, etc.

Table 2 – Descriptive Statistics

	Summary Statistics				
	Observations	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
Dependent Variables					
Access to Sanitation					
% of Total Population	4010	0.68	0.31	0.02	1.00
% of Urban Population	3983	0.61	0.34	0.00	1.00
% of Rural Population	4059	0.77	0.25	0.09	1.00
Access to Water					
% of Total Population	4102	0.84	0.19	0.05	1.00
% of Urban Population	4062	0.77	0.23	0.03	1.00
% of Rural Population	4180	0.93	0.10	0.14	1.00
Primary Independent Variables					
Has CER Provision	190	0.64	0.48	0.00	1.00
Provision Age * Has CER Provision	3257	6.43	9.39	0.00	57.00
Index 0-7	190	1.50	1.40	0.00	5.00
(Provision Age * Index 0-7) / 7	3257	1.91	2.92	0.00	24.43
Control Variables					
Log of GDP per Capita	4048	8.86	1.24	4.96	11.80
Log of Population Density	4344	4.14	1.40	0.34	9.84
Female Percent of Population	4072	0.50	0.03	0.24	0.54
Infrastructure					
Log of Telephone Lines per 100 People	4235	1.92	1.77	-5.10	4.80
Log of Internet Users per 100 People	3354	1.05	2.71	-10.95	4.57
Institutional Quality					
Regulatory Quality	3181	0.49	0.19	0.00	0.92
Government Effectiveness	3179	0.49	0.19	0.04	0.97
Rule of Law	3207	0.49	0.20	0.05	0.90
Legal Origins					
British	4209	0.33	0.47	0.00	1.00
French	4209	0.43	0.49	0.00	1.00
Socialist	4209	0.19	0.39	0.00	1.00
German	4209	0.03	0.18	0.00	1.00
Scandinavian	4209	0.03	0.16	0.00	1.00

Table 3 – Panel Fixed Effects Estimation Results for Access to Improved Sanitation Facilities

	Access to Improved Sanitation Facilities																							
	% of Total Population				% of Urban Population				% of Rural Population				% of Total Population				% of Urban Population				% of Rural Population			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Provision Age * Has CER Provision	-0.00298		-0.000145	0.000461	-0.00182		-0.00322	-0.00168	-0.000898		0.00681	0.00575												
	(0.00426)		(0.00971)	(0.00998)	(0.00374)		(0.00701)	(0.00702)	(0.00623)		(0.0156)	(0.0155)												
(Provision Age * CER Index 0-7) / 7													-0.0154+		-0.0141	-0.0192	-0.0134*		-0.0210	-0.0242+	-0.00917		0.00120	-0.00762
													(0.0105)		(0.0181)	(0.0192)	(0.00747)		(0.0147)	(0.0160)	(0.0143)		(0.0289)	(0.0295)
Provision Age		-0.00406	-0.00477	-0.00448		-0.00173	0.000527	-0.000185		-0.00335	-0.0119	-0.00864		-0.00406	-0.0000750	0.00216		-0.00173	0.00471	0.00617		-0.00335	-0.00589	-0.000880
		(0.00416)	(0.00995)	(0.0102)		(0.00350)	(0.00678)	(0.00663)		(0.00631)	(0.0167)	(0.0163)		(0.00416)	(0.00743)	(0.00780)		(0.00350)	(0.00662)	(0.00724)		(0.00631)	(0.0126)	(0.0129)
Log of GDP per Capita	0.297**	0.297**	0.336***	0.297**	0.269**	0.269**	0.276**	0.269**	0.231*	0.230*	0.277**	0.231*	0.299**	0.297**	0.338***	0.300**	0.271**	0.269**	0.278**	0.273**	0.232*	0.230*	0.276**	0.231*
	(0.127)	(0.127)	(0.126)	(0.127)	(0.122)	(0.122)	(0.117)	(0.122)	(0.138)	(0.139)	(0.138)	(0.137)	(0.128)	(0.127)	(0.126)	(0.127)	(0.122)	(0.122)	(0.116)	(0.122)	(0.140)	(0.139)	(0.140)	(0.139)
Log of GDP per Capita Squared	-0.0153**	-0.0153**	-0.0176**	-0.0153**	-0.0138**	-0.0138**	-0.0144**	-0.0138**	-0.0116+	-0.0115+	-0.0143*	-0.0116+	-0.0154**	-0.0153**	-0.0176**	-0.0155**	-0.0138**	-0.0138**	-0.0145**	-0.0140**	-0.0116+	-0.0115+	-0.0142*	-0.0115+
	(0.00690)	(0.00688)	(0.00687)	(0.00687)	(0.00656)	(0.00654)	(0.00636)	(0.00656)	(0.00766)	(0.00774)	(0.00767)	(0.00760)	(0.00695)	(0.00688)	(0.00691)	(0.00693)	(0.00654)	(0.00654)	(0.00632)	(0.00653)	(0.00781)	(0.00774)	(0.00782)	(0.00776)
Log of Population Density	0.0121	0.0116	0.0162	0.0116	0.0150	0.0149	0.0166	0.0150	-0.0112	-0.0117	0.00248	-0.0121	0.0113	0.0116	0.0161	0.0115	0.0139	0.0149	0.0163	0.0145	-0.0117	-0.0117	0.00246	-0.0117
	(0.0394)	(0.0395)	(0.0412)	(0.0394)	(0.0339)	(0.0340)	(0.0357)	(0.0340)	(0.0417)	(0.0419)	(0.0443)	(0.0417)	(0.0394)	(0.0395)	(0.0410)	(0.0394)	(0.0339)	(0.0340)	(0.0356)	(0.0338)	(0.0418)	(0.0419)	(0.0441)	(0.0419)
Female Percent of Population	0.486	0.469	0.584	0.469	0.147	0.147	0.230	0.146	0.512	0.481	0.762	0.481	0.473	0.469	0.597	0.489	0.127	0.147	0.249	0.170	0.495	0.481	0.758	0.489
	(0.414)	(0.406)	(0.432)	(0.407)	(0.302)	(0.301)	(0.309)	(0.301)	(0.473)	(0.460)	(0.543)	(0.458)	(0.407)	(0.406)	(0.435)	(0.414)	(0.300)	(0.301)	(0.313)	(0.306)	(0.469)	(0.460)	(0.543)	(0.461)
Government Effectiveness	-0.0295	-0.0298		-0.0298	-0.0592*	-0.0593*		-0.0592*	-0.0151	-0.0155		-0.0155	-0.0311	-0.0298		-0.0312	-0.0604*	-0.0593*		-0.0608*	-0.0161	-0.0155		-0.0161
	(0.0402)	(0.0403)		(0.0403)	(0.0329)	(0.0330)		(0.0329)	(0.0483)	(0.0482)		(0.0482)	(0.0397)	(0.0403)		(0.0396)	(0.0327)	(0.0330)		(0.0324)	(0.0480)	(0.0482)		(0.0481)
Log of Internet Users per 100 People	0.00841***	0.00859***	0.00817***	0.00860***	0.00359+	0.00361+	0.00316*	0.00359+	0.00789***	0.00820***	0.00918***	0.00824***	0.00852***	0.00859***	0.00804***	0.00837***	0.00377+	0.00361+	0.00299+	0.00333	0.00805***	0.00820***	0.00916***	0.00811***
	(0.00260)	(0.00261)	(0.00193)	(0.00262)	(0.00242)	(0.00246)	(0.00190)	(0.00246)	(0.00267)	(0.00267)	(0.00216)	(0.00266)	(0.00267)	(0.00261)	(0.00189)	(0.00254)	(0.00239)	(0.00246)	(0.00188)	(0.00242)	(0.00273)	(0.00267)	(0.00216)	(0.00263)
Constant	-0.988*	-0.971*	-1.185**	-0.971*	-0.613	-0.610	-0.682	-0.613	-0.712	-0.685	-1.016+	-0.679	-0.988*	-0.971*	-1.205**	-1.003*	-0.607	-0.610	-0.705+	-0.646	-0.704	-0.685	-1.021+	-0.697
	(0.550)	(0.543)	(0.552)	(0.542)	(0.493)	(0.494)	(0.484)	(0.494)	(0.607)	(0.602)	(0.635)	(0.599)	(0.550)	(0.543)	(0.554)	(0.546)	(0.485)	(0.494)	(0.485)	(0.498)	(0.615)	(0.602)	(0.638)	(0.601)
Observations	2043	2043	2211	2043	2057	2057	2226	2057	2047	2047	2219	2047	2043	2043	2211	2043	2057	2057	2226	2057	2047	2047	2219	2047
R-squared	0.481	0.482	0.497	0.482	0.342	0.342	0.345	0.342	0.394	0.394	0.411	0.395	0.484	0.482	0.499	0.485	0.348	0.342	0.352	0.351	0.395	0.394	0.410	0.395
Adjusted R-squared	0.475	0.476	0.491	0.476	0.335	0.335	0.337	0.335	0.387	0.388	0.404	0.388	0.479	0.476	0.492	0.479	0.340	0.335	0.343	0.343	0.388	0.388	0.403	0.388

Note(s): Cluster robust standard errors in parentheses. P-Value Notation: + p<0.15, * p<0.10, ** p<0.05, *** p<0.01.

Table 4 – Panel Fixed Effects Estimation Results for Access to Improved Water Sources

	Access to Improved Water Sources																							
	% of Total Population				% of Urban Population				% of Rural Population				% of Total Population				% of Urban Population				% of Rural Population			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Provision Age * Has CER Provision	0.0134***		0.0237***	0.0254***	0.00972**		0.0128	0.0156+	0.0167***		0.0332***	0.0317***												
	(0.00427)		(0.00895)	(0.00946)	(0.00459)		(0.00943)	(0.00994)	(0.00536)		(0.0107)	(0.0110)												
(Provision Age * CER Index 0-7) / 7													0.0195*		0.0125	0.0141	0.0163+		0.00632	0.0104	0.0281**		0.0298	0.0257
													(0.0103)		(0.0172)	(0.0194)	(0.0106)		(0.0183)	(0.0210)	(0.0138)		(0.0225)	(0.0232)
Provision Age		0.00759*	-0.0161*	-0.0158*		0.00674+	-0.00653	-0.00769		0.00959*	-0.0236**	-0.0196*		0.00759*	0.00202	0.00307		0.00674+	0.00334	0.00333		0.00959*	-0.00245	0.00133
		(0.00406)	(0.00919)	(0.00939)		(0.00409)	(0.00935)	(0.00934)		(0.00527)	(0.0110)	(0.0109)		(0.00406)	(0.00713)	(0.00780)		(0.00409)	(0.00766)	(0.00849)		(0.00527)	(0.00871)	(0.00890)
Log of GDP per Capita	0.413***	0.411***	0.419***	0.413***	0.287**	0.286**	0.284**	0.287**	0.381***	0.379***	0.370***	0.382***	0.408***	0.411***	0.417***	0.409***	0.283**	0.286**	0.283**	0.284**	0.375***	0.379***	0.366***	0.375***
	(0.132)	(0.134)	(0.122)	(0.130)	(0.127)	(0.128)	(0.112)	(0.126)	(0.138)	(0.142)	(0.132)	(0.135)	(0.134)	(0.134)	(0.126)	(0.134)	(0.129)	(0.128)	(0.113)	(0.129)	(0.141)	(0.142)	(0.138)	(0.141)
Log of GDP per Capita Squared	-0.0223***	-0.0221***	-0.0225***	-0.0224***	-0.0150**	-0.0149**	-0.0149**	-0.0151**	-0.0203***	-0.0200**	-0.0193**	-0.0204***	-0.0219***	-0.0221***	-0.0222***	-0.0220***	-0.0147**	-0.0149**	-0.0147**	-0.0148**	-0.0197**	-0.0200**	-0.0188**	-0.0198**
	(0.00709)	(0.00723)	(0.00660)	(0.00701)	(0.00659)	(0.00667)	(0.00585)	(0.00659)	(0.00760)	(0.00783)	(0.00743)	(0.00748)	(0.00723)	(0.00723)	(0.00678)	(0.00719)	(0.00670)	(0.00667)	(0.00592)	(0.00671)	(0.00779)	(0.00783)	(0.00774)	(0.00776)
Log of Population Density	0.0897**	0.0890**	0.0936**	0.0875**	0.0619*	0.0615*	0.0585**	0.0607*	0.0833+	0.0826+	0.101**	0.0806+	0.0887**	0.0890**	0.0930**	0.0891**	0.0612*	0.0615*	0.0581**	0.0616*	0.0825+	0.0826+	0.0999**	0.0827+
	(0.0425)	(0.0431)	(0.0405)	(0.0431)	(0.0334)	(0.0338)	(0.0292)	(0.0336)	(0.0513)	(0.0519)	(0.0503)	(0.0523)	(0.0431)	(0.0431)	(0.0402)	(0.0430)	(0.0339)	(0.0338)	(0.0292)	(0.0337)	(0.0520)	(0.0519)	(0.0497)	(0.0519)
Female Percent of Population	1.317***	1.257***	1.358***	1.262***	0.428+	0.398+	0.410*	0.401+	1.763***	1.689***	1.948***	1.694***	1.222***	1.257***	1.327***	1.243***	0.364	0.398+	0.394+	0.387	1.656***	1.689***	1.899***	1.665***
	(0.415)	(0.424)	(0.417)	(0.409)	(0.263)	(0.270)	(0.241)	(0.269)	(0.612)	(0.621)	(0.629)	(0.603)	(0.415)	(0.424)	(0.426)	(0.421)	(0.266)	(0.270)	(0.242)	(0.269)	(0.610)	(0.621)	(0.637)	(0.613)
Government Effectiveness	-0.0171	-0.0183		-0.0185	-0.0134	-0.0142		-0.0141	-0.0108	-0.0123		-0.0124	-0.0175	-0.0183		-0.0175	-0.0135	-0.0142		-0.0135	-0.0109	-0.0123		-0.0109
	(0.0455)	(0.0451)		(0.0455)	(0.0357)	(0.0359)		(0.0359)	(0.0591)	(0.0587)		(0.0590)	(0.0454)	(0.0451)		(0.0453)	(0.0360)	(0.0359)		(0.0360)	(0.0591)	(0.0587)		(0.0591)
Log of Internet Users per 100 People	0.00272	0.00322	0.00379*	0.00331	-0.00175	-0.00153	-0.000917	-0.00146	0.00171	0.00233	0.00463*	0.00244	0.00355	0.00322	0.00390*	0.00334	-0.00120	-0.00153	-0.000863	-0.00143	0.00266	0.00233	0.00487*	0.00257
	(0.00304)	(0.00306)	(0.00218)	(0.00289)	(0.00289)	(0.00284)	(0.00200)	(0.00273)	(0.00370)	(0.00380)	(0.00276)	(0.00363)	(0.00309)	(0.00306)	(0.00223)	(0.00298)	(0.00279)	(0.00284)	(0.00202)	(0.00279)	(0.00382)	(0.00380)	(0.00281)	(0.00372)
Constant	-2.047***	-2.026***	-2.093***	-1.989***	-0.873+	-0.867+	-0.834+	-0.845+	-2.208***	-2.181***	-2.301***	-2.137***	-1.983***	-2.026***	-2.102***	-2.003***	-0.829+	-0.867+	-0.839+	-0.851+	-2.131***	-2.181***	-2.296***	-2.140***
	(0.628)	(0.630)	(0.588)	(0.607)	(0.556)	(0.561)	(0.514)	(0.550)	(0.698)	(0.704)	(0.675)	(0.678)	(0.635)	(0.630)	(0.605)	(0.626)	(0.556)	(0.561)	(0.525)	(0.566)	(0.709)	(0.704)	(0.698)	(0.698)
Observations	2067	2067	2240	2067	2086	2086	2259	2086	2069	2069	2242	2069	2067	2067	2240	2067	2086	2086	2259	2086	2069	2069	2242	2069
R-squared	0.533	0.519	0.551	0.541	0.256	0.244	0.263	0.260	0.487	0.473	0.504	0.494	0.520	0.519	0.533	0.520	0.245	0.244	0.253	0.246	0.476	0.473	0.486	0.476
Adjusted R-squared	0.528	0.513	0.546	0.535	0.249	0.236	0.254	0.251	0.482	0.467	0.497	0.488	0.515	0.513	0.527	0.515	0.237	0.236	0.244	0.237	0.470	0.467	0.480	0.470

Note(s): Cluster robust standard errors in parentheses. P-Value Notation: + p<0.15, * p<0.10, ** p<0.05, *** p<0.01.

Table 5 – British Legal Origins: Panel Fixed Effects Estimation Results for Access to Improved Sanitation Facilities

	Access to Improved Sanitation Facilities																							
	% of Total Population				% of Urban Population				% of Rural Population				% of Total Population				% of Urban Population				% of Rural Population			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Provision Age * Has CER Provision	-0.000593		-0.00779	-0.00880	-0.00698		-0.00947	-0.00871	0.00141		-0.0166	-0.0185												
	(0.00726)		(0.0180)	(0.0185)	(0.00505)		(0.0104)	(0.00977)	(0.0105)		(0.0276)	(0.0295)												
(Provision Age * CER Index 0-7) / 7													0.00373		-0.00586	-0.00457	-0.0163		-0.0197	-0.0148	0.0130		-0.0130	-0.0131
													(0.0174)		(0.0378)	(0.0383)	(0.0124)		(0.0202)	(0.0179)	(0.0260)		(0.0601)	(0.0629)
Provision Age		0.00286	0.00849	0.0104		-0.00528	0.00296	0.00220		0.00941	0.0212	0.0253		0.00286	0.00360	0.00425		-0.00528	0.000661	-0.000776		0.00941	0.0109	0.0134
		(0.00874)	(0.0197)	(0.0208)		(0.00474)	(0.00995)	(0.00979)		(0.0131)	(0.0303)	(0.0331)		(0.00874)	(0.0164)	(0.0174)		(0.00474)	(0.00756)	(0.00715)		(0.0131)	(0.0257)	(0.0279)
Log of GDP per Capita	0.289*	0.292*	0.317*	0.282+	0.200	0.209+	0.227+	0.199	0.314+	0.316+	0.321+	0.294+	0.291*	0.292*	0.321*	0.291*	0.207+	0.209+	0.232+	0.207+	0.315+	0.316+	0.331*	0.314+
	(0.169)	(0.170)	(0.177)	(0.173)	(0.140)	(0.139)	(0.144)	(0.143)	(0.188)	(0.191)	(0.198)	(0.192)	(0.170)	(0.170)	(0.174)	(0.170)	(0.140)	(0.139)	(0.142)	(0.140)	(0.189)	(0.191)	(0.193)	(0.190)
Log of GDP per Capita Squared	-0.0159+	-0.0161+	-0.0172+	-0.0154+	-0.0109	-0.0114	-0.0123	-0.0107	-0.0176+	-0.0178+	-0.0177+	-0.0165	-0.0160+	-0.0161+	-0.0176*	-0.0161+	-0.0113	-0.0114	-0.0127+	-0.0113	-0.0177+	-0.0178+	-0.0184+	-0.0178+
	(0.0101)	(0.0102)	(0.0104)	(0.0103)	(0.00857)	(0.00851)	(0.00876)	(0.00874)	(0.0111)	(0.0113)	(0.0114)	(0.0113)	(0.0102)	(0.0102)	(0.0103)	(0.0102)	(0.00857)	(0.00851)	(0.00863)	(0.00856)	(0.0112)	(0.0113)	(0.0112)	(0.0112)
Log of Population Density	-0.0856	-0.0860	-0.0764	-0.0801	-0.0566	-0.0613	-0.0551	-0.0554	-0.108	-0.107	-0.0856	-0.0948	-0.0865	-0.0860	-0.0801	-0.0854	-0.0591	-0.0613	-0.0580	-0.0593	-0.109	-0.107	-0.0934	-0.105
	(0.0747)	(0.0761)	(0.0784)	(0.0755)	(0.0712)	(0.0718)	(0.0765)	(0.0733)	(0.0811)	(0.0830)	(0.0830)	(0.0779)	(0.0755)	(0.0761)	(0.0786)	(0.0757)	(0.0712)	(0.0718)	(0.0758)	(0.0720)	(0.0825)	(0.0830)	(0.0846)	(0.0804)
Female Percent of Population	0.185	0.230	0.490	0.266	-0.358	-0.377	-0.109	-0.341	0.235	0.356	0.686	0.433	0.190	0.230	0.483	0.249	-0.303	-0.377	-0.0754	-0.314	0.225	0.356	0.673	0.412
	(0.740)	(0.741)	(0.740)	(0.738)	(0.645)	(0.661)	(0.673)	(0.665)	(0.858)	(0.829)	(0.842)	(0.818)	(0.722)	(0.741)	(0.735)	(0.737)	(0.628)	(0.661)	(0.666)	(0.662)	(0.836)	(0.829)	(0.830)	(0.810)
Government Effectiveness	-0.00454	-0.00262		-0.000642	-0.00530	-0.00643		-0.00447	-0.00610	-0.000796		0.00337	-0.00410	-0.00262		-0.00210	-0.00439	-0.00643		-0.00475	-0.00559	-0.000796		0.000698
	(0.0493)	(0.0479)		(0.0465)	(0.0432)	(0.0435)		(0.0421)	(0.0596)	(0.0567)		(0.0544)	(0.0489)	(0.0479)		(0.0468)	(0.0430)	(0.0435)		(0.0425)	(0.0591)	(0.0567)		(0.0547)
Log of Internet Users per 100 People	-0.000275	-0.000716	0.00241	-0.000328	-0.00243	-0.00283	-0.000896	-0.00244	-0.000840	-0.00179	0.00242	-0.000968	-0.000498	-0.000716	0.00214	-0.000722	-0.00289	-0.00283	-0.00123	-0.00285	-0.00110	-0.00179	0.00186	-0.00180
	(0.00363)	(0.00356)	(0.00290)	(0.00361)	(0.00273)	(0.00270)	(0.00227)	(0.00272)	(0.00485)	(0.00471)	(0.00396)	(0.00481)	(0.00362)	(0.00356)	(0.00289)	(0.00357)	(0.00277)	(0.00270)	(0.00229)	(0.00271)	(0.00461)	(0.00471)	(0.00391)	(0.00475)
Constant	-0.429	-0.465	-0.741	-0.484	0.204	0.211	-0.0274	0.192	-0.486	-0.580	-0.877	-0.620	-0.436	-0.465	-0.728	-0.478	0.164	0.211	-0.0450	0.171	-0.485	-0.580	-0.851	-0.615
	(0.634)	(0.630)	(0.703)	(0.652)	(0.485)	(0.479)	(0.504)	(0.498)	(0.747)	(0.736)	(0.836)	(0.780)	(0.628)	(0.630)	(0.689)	(0.643)	(0.480)	(0.479)	(0.486)	(0.488)	(0.739)	(0.736)	(0.804)	(0.758)
Observations	671	671	736	671	671	671	736	671	671	671	740	671	671	671	736	671	671	671	736	671	671	671	740	671
R-squared	0.449	0.450	0.467	0.452	0.300	0.295	0.317	0.300	0.401	0.407	0.430	0.416	0.449	0.450	0.465	0.450	0.297	0.295	0.316	0.297	0.402	0.407	0.424	0.408
Adjusted R-squared	0.430	0.431	0.446	0.433	0.276	0.271	0.290	0.275	0.380	0.387	0.408	0.395	0.431	0.431	0.444	0.430	0.273	0.271	0.289	0.272	0.382	0.387	0.402	0.387

Note(s): Cluster robust standard errors in parentheses. P-Value Notation: + p<0.15, * p<0.10, ** p<0.05, *** p<0.01.

Table 6 – French Legal Origins: Panel Fixed Effects Estimation Results for Access to Improved Sanitation Facilities

	Access to Improved Sanitation Facilities																							
	% of Total Population				% of Urban Population				% of Rural Population				% of Total Population				% of Urban Population				% of Rural Population			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Provision Age * Has CER Provision	-0.000767		0.00615	0.00824	-0.000808		0.000766	0.00158	0.00419		0.0232	0.0234												
	(0.00607)		(0.0127)	(0.0133)	(0.00446)		(0.0123)	(0.0131)	(0.0108)		(0.0239)	(0.0220)												
(Provision Age * CER Index 0-7) / 7													-0.0128		-0.0101	-0.0150	-0.00736		-0.00765	-0.0116	-0.00424		0.0131	0.00151
													(0.0135)		(0.0246)	(0.0253)	(0.00999)		(0.0199)	(0.0211)	(0.0220)		(0.0473)	(0.0459)
Provision Age		-0.00393	-0.0101	-0.0117		-0.00159	-0.00206	-0.00307		-0.00286	-0.0289	-0.0249		-0.00393	-0.000572	0.00132		-0.00159	0.00143	0.00245		-0.00286	-0.0117	-0.00339
		(0.00544)	(0.0120)	(0.0125)		(0.00404)	(0.0127)	(0.0133)		(0.0102)	(0.0244)	(0.0214)		(0.00544)	(0.0104)	(0.0105)		(0.00404)	(0.00896)	(0.00902)		(0.0102)	(0.0226)	(0.0211)
Log of GDP per Capita	0.274+	0.274+	0.320+	0.269+	0.235*	0.235*	0.249*	0.234*	0.0860	0.0855	0.133	0.0765	0.287+	0.274+	0.332*	0.289+	0.243*	0.235*	0.257*	0.247*	0.0900	0.0855	0.123	0.0841
	(0.183)	(0.181)	(0.202)	(0.180)	(0.127)	(0.128)	(0.138)	(0.128)	(0.239)	(0.235)	(0.257)	(0.229)	(0.176)	(0.181)	(0.196)	(0.174)	(0.126)	(0.128)	(0.135)	(0.124)	(0.240)	(0.235)	(0.264)	(0.236)
Log of GDP per Capita Squared	-0.0141+	-0.0141+	-0.0163+	-0.0138+	-0.0124*	-0.0124*	-0.0131*	-0.0123*	-0.00262	-0.00257	-0.00458	-0.00205	-0.0148+	-0.0141+	-0.0170+	-0.0149+	-0.0128*	-0.0124*	-0.0135*	-0.0130**	-0.00282	-0.00257	-0.00401	-0.00249
	(0.00953)	(0.00942)	(0.0106)	(0.00934)	(0.00645)	(0.00650)	(0.00718)	(0.00651)	(0.0137)	(0.0136)	(0.0146)	(0.0131)	(0.00922)	(0.00942)	(0.0103)	(0.00914)	(0.00643)	(0.00650)	(0.00705)	(0.00636)	(0.0139)	(0.0136)	(0.0152)	(0.0136)
Log of Population Density	-0.0178	-0.0143	-0.000456	-0.0155	0.0171	0.0178	0.0172	0.0176	-0.0906	-0.0810	-0.0259	-0.0859	-0.0159	-0.0143	-0.00252	-0.0170	0.0175	0.0178	0.0154	0.0157	-0.0835	-0.0810	-0.0205	-0.0808
	(0.0602)	(0.0621)	(0.0644)	(0.0616)	(0.0444)	(0.0444)	(0.0446)	(0.0446)	(0.0693)	(0.0733)	(0.0823)	(0.0713)	(0.0615)	(0.0621)	(0.0646)	(0.0625)	(0.0445)	(0.0444)	(0.0448)	(0.0448)	(0.0737)	(0.0733)	(0.0844)	(0.0741)
Female Percent of Population	0.102	0.103	0.193	0.114	0.133	0.135	0.126	0.137	-0.0427	-0.0409	0.448	-0.0177	0.0769	0.103	0.156	0.0723	0.120	0.135	0.106	0.111	-0.0504	-0.0409	0.441	-0.0380
	(0.525)	(0.535)	(0.555)	(0.531)	(0.366)	(0.368)	(0.385)	(0.367)	(0.570)	(0.589)	(0.719)	(0.582)	(0.530)	(0.535)	(0.552)	(0.530)	(0.368)	(0.368)	(0.383)	(0.368)	(0.583)	(0.589)	(0.736)	(0.592)
Government Effectiveness	0.0727	0.0732		0.0766	-0.0413	-0.0409		-0.0402	0.121+	0.119+		0.129+	0.0701	0.0732		0.0695	-0.0425	-0.0409		-0.0437	0.118+	0.119+		0.120+
	(0.0656)	(0.0655)		(0.0659)	(0.0570)	(0.0566)		(0.0587)	(0.0796)	(0.0801)		(0.0784)	(0.0638)	(0.0655)		(0.0627)	(0.0561)	(0.0566)		(0.0553)	(0.0784)	(0.0801)		(0.0770)
Log of Internet Users per 100 People	0.0136***	0.0140***	0.0138***	0.0147***	0.00922**	0.00938**	0.00869**	0.00951**	0.00947**	0.00980**	0.0126**	0.0118**	0.0137***	0.0140***	0.0132***	0.0136***	0.00927**	0.00938**	0.00847**	0.00903**	0.00953**	0.00980**	0.0116**	0.00984**
	(0.00470)	(0.00459)	(0.00381)	(0.00478)	(0.00447)	(0.00446)	(0.00381)	(0.00459)	(0.00469)	(0.00459)	(0.00486)	(0.00525)	(0.00465)	(0.00459)	(0.00357)	(0.00440)	(0.00447)	(0.00446)	(0.00365)	(0.00424)	(0.00459)	(0.00459)	(0.00457)	(0.00492)
Constant	-0.673	-0.681	-0.903	-0.654	-0.474	-0.475	-0.509	-0.469	0.272	0.247	-0.307	0.312	-0.724	-0.681	-0.943	-0.730	-0.502	-0.475	-0.533	-0.512	0.236	0.247	-0.292	0.251
	(0.800)	(0.788)	(0.907)	(0.790)	(0.591)	(0.592)	(0.623)	(0.598)	(1.022)	(0.978)	(1.171)	(0.995)	(0.771)	(0.788)	(0.878)	(0.763)	(0.588)	(0.592)	(0.610)	(0.579)	(0.990)	(0.978)	(1.150)	(0.976)
Observations	859	859	909	859	866	866	916	866	863	863	913	863	859	859	909	859	866	866	916	866	863	863	913	863
R-squared	0.598	0.600	0.616	0.602	0.503	0.503	0.514	0.503	0.444	0.444	0.481	0.454	0.602	0.600	0.616	0.602	0.505	0.503	0.515	0.505	0.443	0.444	0.473	0.444
Adjusted R-squared	0.588	0.589	0.604	0.591	0.490	0.490	0.498	0.490	0.430	0.429	0.464	0.439	0.591	0.589	0.604	0.591	0.492	0.490	0.499	0.492	0.429	0.429	0.456	0.428

Note(s): Cluster robust standard errors in parentheses. P-Value Notation: + p<0.15, * p<0.10, ** p<0.05, *** p<0.01.

Table 7 – British Legal Origins: Panel Fixed Effects Estimation Results for Access to Improved Water Sources

	Access to Improved Water Sources																							
	% of Total Population				% of Urban Population				% of Rural Population				% of Total Population				% of Urban Population				% of Rural Population			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Provision Age * Has CER Provision	0.0332***		0.0398***	0.0367**	0.00389		-0.000294	-0.00165	0.0460***		0.0538***	0.0500***												
	(0.00906)		(0.0141)	(0.0145)	(0.00609)		(0.00833)	(0.00896)	(0.0111)		(0.0184)	(0.0185)												
(Provision Age * CER Index 0-7) / 7													0.0757***		0.0692**	0.0567*	0.00254		-0.0154	-0.0204	0.111***		0.109**	0.0930**
													(0.0243)		(0.0305)	(0.0302)	(0.0136)		(0.0172)	(0.0175)	(0.0305)		(0.0409)	(0.0402)
Provision Age		0.0268***	-0.00724	-0.00442		0.00562	0.00452	0.00703		0.0374***	-0.00935	-0.00515		0.0268***	0.00587	0.00972		0.00562	0.00856+	0.0118*		0.0374***	0.00410	0.00943
		(0.00796)	(0.0113)	(0.0115)		(0.00488)	(0.00553)	(0.00616)		(0.0106)	(0.0155)	(0.0154)		(0.00796)	(0.00793)	(0.00806)		(0.00488)	(0.00521)	(0.00603)		(0.0106)	(0.0112)	(0.0108)
Log of GDP per Capita	0.248***	0.210**	0.275***	0.252***	0.0976	0.0944	0.114	0.0926	0.261**	0.208+	0.290**	0.265**	0.217**	0.210**	0.252**	0.217**	0.0923	0.0944	0.113	0.0922	0.219*	0.208+	0.260**	0.219*
	(0.0901)	(0.0969)	(0.0905)	(0.0924)	(0.0933)	(0.0977)	(0.0807)	(0.0904)	(0.123)	(0.135)	(0.121)	(0.126)	(0.0933)	(0.0969)	(0.0956)	(0.0930)	(0.0970)	(0.0977)	(0.0825)	(0.0951)	(0.127)	(0.135)	(0.128)	(0.127)
Log of GDP per Capita Squared	-0.0121**	-0.00956*	-0.0136***	-0.0123**	-0.00486	-0.00467	-0.00548	-0.00455	-0.0120+	-0.00851	-0.0138*	-0.0122+	-0.00974*	-0.00956*	-0.0119**	-0.00983*	-0.00448	-0.00467	-0.00544	-0.00458	-0.00888	-0.00851	-0.0115+	-0.00896
	(0.00516)	(0.00543)	(0.00507)	(0.00533)	(0.00494)	(0.00524)	(0.00419)	(0.00477)	(0.00723)	(0.00771)	(0.00699)	(0.00743)	(0.00526)	(0.00543)	(0.00523)	(0.00520)	(0.00520)	(0.00524)	(0.00433)	(0.00510)	(0.00733)	(0.00771)	(0.00724)	(0.00727)
Log of Population Density	0.0693	0.0929*	0.0610	0.0671	0.0119	0.0144	0.0147	0.0155	0.115+	0.147**	0.105+	0.112+	0.0825*	0.0929*	0.0761*	0.0847*	0.0146	0.0144	0.0166	0.0173	0.132*	0.147**	0.123**	0.134*
	(0.0491)	(0.0508)	(0.0454)	(0.0509)	(0.0195)	(0.0186)	(0.0189)	(0.0198)	(0.0692)	(0.0706)	(0.0637)	(0.0717)	(0.0491)	(0.0508)	(0.0443)	(0.0492)	(0.0195)	(0.0186)	(0.0176)	(0.0189)	(0.0680)	(0.0706)	(0.0613)	(0.0682)
Female Percent of Population	2.239***	2.353***	2.233***	2.205***	0.495*	0.541*	0.544**	0.548*	3.248***	3.411***	3.239***	3.210***	1.986***	2.353***	2.136***	2.118***	0.467*	0.541*	0.592**	0.626**	2.897***	3.411***	3.059***	3.025***
	(0.655)	(0.716)	(0.605)	(0.657)	(0.262)	(0.277)	(0.257)	(0.276)	(0.873)	(0.971)	(0.811)	(0.883)	(0.661)	(0.716)	(0.652)	(0.701)	(0.257)	(0.277)	(0.261)	(0.287)	(0.885)	(0.971)	(0.871)	(0.937)
Government Effectiveness	-0.0415	-0.0382		-0.0430	0.0151	0.0173		0.0175	-0.0638	-0.0591		-0.0656	-0.0475	-0.0382		-0.0430	0.0135	0.0173		0.0190	-0.0713	-0.0591		-0.0669
	(0.0494)	(0.0485)		(0.0489)	(0.0314)	(0.0313)		(0.0310)	(0.0689)	(0.0669)		(0.0680)	(0.0492)	(0.0485)		(0.0484)	(0.0309)	(0.0313)		(0.0305)	(0.0683)	(0.0669)		(0.0671)
Log of Internet Users per 100 People	0.00163	0.00352	0.00316+	0.00161	-0.00107	-0.00113	0.000186	-0.00104	-0.000377	0.00220	0.00219	-0.000394	0.00382	0.00352	0.00472**	0.00340	-0.000580	-0.00113	0.000240	-0.00109	0.00242	0.00220	0.00424+	0.00201
	(0.00276)	(0.00278)	(0.00201)	(0.00276)	(0.00219)	(0.00200)	(0.00150)	(0.00221)	(0.00349)	(0.00380)	(0.00264)	(0.00349)	(0.00265)	(0.00278)	(0.00209)	(0.00269)	(0.00190)	(0.00200)	(0.00138)	(0.00199)	(0.00344)	(0.00380)	(0.00277)	(0.00350)
Constant	-1.764***	-1.825***	-1.827***	-1.741***	0.164	0.131	0.0423	0.127	-2.607***	-2.695***	-2.666***	-2.580***	-1.581***	-1.825***	-1.786***	-1.673***	0.188	0.131	0.00595	0.0763	-2.356***	-2.695***	-2.573***	-2.446***
	(0.433)	(0.478)	(0.443)	(0.428)	(0.454)	(0.455)	(0.415)	(0.469)	(0.588)	(0.676)	(0.602)	(0.588)	(0.468)	(0.478)	(0.502)	(0.474)	(0.474)	(0.455)	(0.412)	(0.468)	(0.636)	(0.676)	(0.682)	(0.655)
Observations	699	699	768	699	700	700	769	700	699	699	768	699	699	699	768	699	700	700	769	700	699	699	768	699
R-squared	0.665	0.628	0.677	0.666	0.226	0.233	0.279	0.233	0.670	0.629	0.674	0.671	0.641	0.628	0.656	0.644	0.218	0.233	0.286	0.245	0.653	0.629	0.659	0.655
Adjusted R-squared	0.654	0.616	0.665	0.654	0.200	0.208	0.251	0.207	0.660	0.617	0.662	0.660	0.630	0.616	0.643	0.632	0.193	0.208	0.259	0.219	0.642	0.617	0.646	0.643

Note(s): Cluster robust standard errors in parentheses. P-Value Notation: + p<0.15, * p<0.10, ** p<0.05, *** p<0.01.

Table 8 – French Legal Origins: Panel Fixed Effects Estimation Results for Access to Improved Water Sources

	Access to Improved Water Sources																							
	% of Total Population				% of Urban Population				% of Rural Population				% of Total Population				% of Urban Population				% of Rural Population			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Provision Age * Has CER Provision	0.00866		0.0247+	0.0294*	0.0109		0.0255	0.0311+	0.00983		0.0294+	0.0296												
	(0.00710)		(0.0165)	(0.0166)	(0.00845)		(0.0205)	(0.0195)	(0.00868)		(0.0191)	(0.0212)												
(Provision Age * CER Index 0-7) / 7													0.00585		0.00303	0.0104	0.0192		0.0229	0.0337	0.00544		0.00255	0.00322
													(0.0147)		(0.0290)	(0.0313)	(0.0185)		(0.0347)	(0.0362)	(0.0200)		(0.0369)	(0.0382)
Provision Age		0.000955	-0.0232	-0.0268+		0.00324	-0.0208	-0.0261		0.00242	-0.0291	-0.0256		0.000955	-0.000881	-0.00268		0.00324	-0.00496	-0.00852		0.00242	-0.00217	0.00129
		(0.00701)	(0.0168)	(0.0164)		(0.00752)	(0.0199)	(0.0181)		(0.00885)	(0.0202)	(0.0219)		(0.00701)	(0.0138)	(0.0145)		(0.00752)	(0.0149)	(0.0153)		(0.00885)	(0.0167)	(0.0169)
Log of GDP per Capita	0.597***	0.605***	0.623**	0.589***	0.539**	0.549**	0.550***	0.531**	0.486**	0.493**	0.476*	0.477**	0.599***	0.605***	0.627***	0.594***	0.527**	0.549**	0.534**	0.514**	0.488**	0.493**	0.481*	0.490**
	(0.221)	(0.217)	(0.239)	(0.213)	(0.209)	(0.216)	(0.205)	(0.217)	(0.229)	(0.223)	(0.249)	(0.216)	(0.213)	(0.217)	(0.233)	(0.209)	(0.208)	(0.216)	(0.203)	(0.216)	(0.221)	(0.223)	(0.248)	(0.217)
Log of GDP per Capita Squared	-0.0349***	-0.0353***	-0.0360***	-0.0344***	-0.0299***	-0.0304***	-0.0304***	-0.0294***	-0.0290**	-0.0294**	-0.0277**	-0.0285**	-0.0350***	-0.0353***	-0.0362***	-0.0347***	-0.0293***	-0.0304***	-0.0296***	-0.0285**	-0.0291**	-0.0294**	-0.0280**	-0.0292**
	(0.0120)	(0.0117)	(0.0130)	(0.0117)	(0.0105)	(0.0109)	(0.0105)	(0.0111)	(0.0126)	(0.0123)	(0.0137)	(0.0121)	(0.0116)	(0.0117)	(0.0126)	(0.0113)	(0.0104)	(0.0109)	(0.0103)	(0.0109)	(0.0122)	(0.0123)	(0.0136)	(0.0121)
Log of Population Density	0.0731	0.0800	0.0676	0.0755	0.106+	0.113+	0.0974+	0.109+	-0.0431	-0.0362	-0.00976	-0.0408	0.0802	0.0800	0.0704	0.0819	0.114*	0.113+	0.105+	0.120+	-0.0348	-0.0362	-0.00653	-0.0356
	(0.0736)	(0.0783)	(0.0723)	(0.0793)	(0.0663)	(0.0708)	(0.0632)	(0.0704)	(0.0853)	(0.0890)	(0.0900)	(0.0902)	(0.0753)	(0.0783)	(0.0729)	(0.0801)	(0.0665)	(0.0708)	(0.0658)	(0.0724)	(0.0881)	(0.0890)	(0.0899)	(0.0903)
Female Percent of Population	0.444	0.430	0.415	0.465	0.317	0.299	0.252	0.337	0.149	0.134	0.454	0.169	0.443	0.430	0.380	0.452	0.342	0.299	0.263	0.370	0.146	0.134	0.411	0.141
	(0.617)	(0.628)	(0.550)	(0.628)	(0.648)	(0.652)	(0.572)	(0.644)	(0.607)	(0.622)	(0.677)	(0.635)	(0.618)	(0.628)	(0.560)	(0.637)	(0.638)	(0.652)	(0.581)	(0.647)	(0.623)	(0.622)	(0.671)	(0.633)
Government Effectiveness	0.117+	0.113+		0.124*	0.0411	0.0362		0.0486	0.132+	0.127		0.139+	0.114+	0.113+		0.115+	0.0415	0.0362		0.0450	0.129+	0.127		0.128+
	(0.0737)	(0.0727)		(0.0728)	(0.0702)	(0.0714)		(0.0698)	(0.0896)	(0.0884)		(0.0909)	(0.0718)	(0.0727)		(0.0716)	(0.0702)	(0.0714)		(0.0706)	(0.0871)	(0.0884)		(0.0865)
Log of Internet Users per 100 People	-0.000319	-0.000282	0.00260	0.00219	-0.00368	-0.00385	-0.00209	-0.00124	-0.00303	-0.00312	0.00264	-0.000631	-0.000222	-0.000282	0.00121	0.0000294	-0.00365	-0.00385	-0.00307	-0.00285	-0.00290	-0.00312	0.000960	-0.00302
	(0.00690)	(0.00713)	(0.00514)	(0.00585)	(0.00772)	(0.00826)	(0.00575)	(0.00690)	(0.00827)	(0.00854)	(0.00707)	(0.00811)	(0.00716)	(0.00713)	(0.00555)	(0.00653)	(0.00788)	(0.00826)	(0.00621)	(0.00765)	(0.00854)	(0.00854)	(0.00717)	(0.00803)
Constant	-2.298**	-2.345**	-2.296*	-2.247**	-2.103**	-2.158*	-2.051*	-2.054*	-1.313	-1.361	-1.465	-1.265	-2.323**	-2.345**	-2.331**	-2.311**	-2.087*	-2.158*	-2.027*	-2.049*	-1.344	-1.361	-1.508	-1.350
	(1.105)	(1.094)	(1.166)	(1.040)	(1.054)	(1.095)	(1.048)	(1.061)	(1.186)	(1.171)	(1.279)	(1.126)	(1.084)	(1.094)	(1.157)	(1.056)	(1.063)	(1.095)	(1.049)	(1.071)	(1.159)	(1.171)	(1.268)	(1.140)
Observations	859	859	909	859	859	859	909	859	861	861	911	861	859	859	909	859	859	859	909	859	861	861	911	861
R-squared	0.572	0.564	0.584	0.590	0.346	0.331	0.357	0.366	0.489	0.483	0.501	0.499	0.565	0.564	0.566	0.565	0.338	0.331	0.337	0.341	0.483	0.483	0.486	0.483
Adjusted R-squared	0.561	0.553	0.571	0.578	0.328	0.313	0.336	0.348	0.476	0.469	0.485	0.485	0.553	0.553	0.552	0.553	0.320	0.313	0.315	0.323	0.469	0.469	0.470	0.469

Note(s): Cluster robust standard errors in parentheses. P-Value Notation: + p<0.15, * p<0.10, ** p<0.05, *** p<0.01.

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